

## Automatic Root Cause Analysis and Diagnostics Engine

### Abstract

A large portion of software bugs are related to hangs. Analyzing and diagnosing hang-related bugs involves capturing data from a hung program and extracting attributes

5 from the captured data. Extracting attributes from the capture data provides a scheme to determine relevant characteristics of the hang. Moreover, the extracted attributes may be compared to known issues and, based on that comparison, a bug may be classified as known or unknown. Alternatively, triage may be performed on the client computing device in order to determine the potential cause of the hang event. Once the potential  
10 cause of the hang event has been determined, troubleshooting steps may be performed on the client computing device to quarantine it. Ultimately, if the hang-inducing bug is known, a user may be provided with a solution to the bug. Alternatively, if the bug is unknown, implementations of the invention send the captured data to be analyzed and fixed by the software's provider.